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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,932	01/26/2004	Chih-Hung Su	ADTP0104USA	1931

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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION  
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EXAMINER

WON, BUMSUK

ART UNIT PAPER NUMBER

2879

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/707,932	SU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Bumsuk Won	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/26/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/26/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/707932, filed on 1/26/2004.

***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inner side and outer side of the passivation structure, and driving circuit, active driving circuit, and thin film transistors must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

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appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US 6,570,325) in view of Kim (US 6,344,884).

Regarding claim 1, Graff discloses a display device comprising: a substrate (note figure 1, item 105); a display unit (note figure 1, item 110) disposed on the substrate (note figure 1, item 105); and a passivation structure (note figure 1, item 115) formed of an organic/inorganic film covering the display unit and the substrate (note column 4, lines 56-62, and figure 1).

Graff does not disclose the passivation structure with an inner side (note figure 1, item 120), which is closer to the display unit (note figure 1, item 110), of the passivation structure (note figure 1, item 115) has a higher organic/inorganic ratio than outer side (note figure 1, item 125), which is farther from the display unit (note figure 1, item 110), and the organic/inorganic ratio gradually decreases from the inner side of the passivation structure (note figure 1, item 115) toward the outside of the passivation structure (note figure 1, item 115).

Kim discloses the passivation structure (note figure 3A, items 155, 156, and inorganic layer which is not shown but

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described in column 5, lines 9-12) with an inner side (note figure 3A, item 155), which is closer to the display unit (note figure 3A, item 190), of the passivation structure (note figure 3A, items 155, 156, and inorganic layer which is not shown but described in column 5, lines 9-12) has a higher organic/inorganic ratio than outer side (note figure 3A, item 156), which is farther from the display unit (note figure 3A, item 190), and the organic/inorganic ratio gradually decreases from the inner side of the passivation structure (note figure 3A, items 155 and 156) toward the outer side of the passivation structure (note figure 3A, item 155 is organic layer, figure 3A item 156 is intermediate layer, and inorganic layer not shown but described in column 5, lines 9-12, the organic/inorganic ratio starts from 100% to 0% in three steps), for the purpose of enhancing bonding or attachment of an inorganic layer (note abstract , lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have organic/inorganic ratio gradually decreases from inner side of the passivation structure towards the outer side of the passivation structure disclosed by Kim in the display device disclosed by Graff, for the purpose of enhancing bonding or attachment of an inorganic layer.

Regarding claim 2, Graff discloses the display device is an organic light emitting display device (note column 1, lines 15-17).

Regarding claim 3, Graff discloses the organic light emitting display unit comprising an organic luminous layer composed of organic materials (note column 5, lines 43-48, and figure 3, item 310).

Regarding claim 4, Kim discloses the inner side (note figure 3A, item 155) of the passivation structure (note figure 3A, items 155, 156, and inorganic layer which is not shown but described in column 5, lines 9-12) has a higher organic/inorganic ratio (note figure 3A, item 155, organic layer which is 100% organic/inorganic ratio) to increase adhesion between the passivation structure and the display unit (the part of the sentence from "to increase" to "display unit" does not contribute to the structure of the device).

The reason for combining is the same as for claim 1 above.

Regarding claim 5, Kim discloses the outer side (note figure 3A, item 156) of the passivation structure (note figure

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3A, items 155, 156, and inorganic layer which is not shown but described in column 5, lines 9-12) has a lower organic/inorganic ratio (note figure 3A, item 156, inorganic layer which is 0% organic/inorganic ratio) to improve water repelling ability of the passivation structure (the part of the sentence from "to improve" to "structure" does not contribute to the structure of the device).

The reason for combining is the same as for claim 1 above.

Regarding claim 6, Kim discloses the organic layer comprises C, H, and O radicals (note column 2, lines 25-26, and figure 3A, item 155), and inorganic layer has SiO<sub>x</sub> (note column 4, lines 37-45, and figure 3A, item 156).

The reason for combining is the same as for claim 1 above.

Regarding claim 7, Graff discloses the thickness of the passivation structure is in a range of 500 to 5000 angstroms (note column 5, lines 8-10).

Regarding claim 8, Graff discloses the substrate is a glass substrate (note column 1, lines 40-44).



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5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US 6,570,325) in view of Kim (US 6,344,884), in further view of Yamazaki (US 6,849,877).

Regarding claim 9, Graff in view of Kim discloses all of the claimed limitations except for the display unit comprising a driving circuit disposed on the surface of the substrate.

Yamazaki discloses the display unit comprising a driving circuit disposed on the surface of the substrate (note column 1, lines 29-30), for the purpose of reducing manufacturing cost and size of the display device, and increasing yield and throughput (note column 1, lines 32-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a driving circuit disposed on the surface of the substrate disclosed by Yamazaki in the display unit disclosed by Graff in view of Kim, for the purpose of reducing manufacturing cost and size of the display device, and increasing yield and throughput.

Regarding claim 10, Yamazaki discloses the driving circuit is an active driving circuit and comprises a plurality of thin film transistors arranged in a matrix for driving the display unit to display images (note column 1, lines 20-23, the part of

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the sentence from "for driving" to "images" does not contribute to the structure of the device).

The reason for combining is the same as for claim 9 above.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US 6,570,325) in view of Kim (US 6,344,884), in further view of Aoyama (US 2001/0043043).

Regarding claim 11, Graff in view of Kim discloses all of the claimed limitations except for the transmittance of the passivation structure is in a range of 40 to 90%.

Aoyama discloses a display device, wherein the transmittance of the passivation structure is in the range of 40% to 90% (note paragraph 0100), for the purpose of enhancing light efficiency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the transmittance of the passivation structure being in the range of 40% to 90%, for the purpose of enhancing light efficiency.

7. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US 6,570,325) in view of Kim (US

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6,344,884), in further view of Aoyama (US 2001/0043043), in further view of Guba (US 5,739,545).

Regarding claims 12-13, Graff in view of Kim in further view of Aoyama does not disclose the light generated from the display unit transmits upward and passes through the passivation structure to display top emission mode, and display in a top emission and a bottom emission mode simultaneously.

Guba discloses a display device wherein the light generated from the display unit transmits upward and passes through the passivation structure to display top emission mode (note figure 2), and display in a top emission and a bottom emission mode simultaneously (note figure 3, column 3, lines 25-28), for the purpose of more flexible viewing angles.

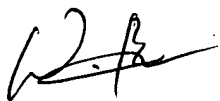
It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the light generated from the display unit to transmit upward and passes through the passivation structure to display top emission mode, and display in a top emission and a bottom emission mode simultaneously disclosed by Guba in a display device disclosed by Graff in view of Kim in further view of Aoyama, for the purpose of more flexible viewing angles.

**Contact information**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bumsuk Won  
Patent Examiner

  
**JOSEPH WILLIAMS**  
**PRIMARY EXAMINER**